WHAT IS CLAIMED IS:

1. A data transmission/reception system comprising:

a plurality of information transmitters/receivers connected to nodes on a bus, for transmitting/receiving data through a connection established between the nodes; and

a connection restoration control device for restoring each connection at each node by the passage of a predetermined time when each established connection is reset based on a bus resetting,

wherein the connection restoration control device controls an execution order of a plurality of connection restorations corresponding to the types of connections, and divides each connection restoration into a plurality of processes, and at the time of executing a connection restoration corresponding to the execution order, selectively executes a predetermined process based on a status of the connection restoration.

2. The data transmission/reception system according to claim 1, further comprising a registration device in which the execution order of the connection restorations is registered, wherein

the connection restoration control device controls the execution order by referring the registration device, and updating the execution order in registration device in accordance with the status of the connection recover.

3. The data transmission/reception system according to claim 1, further comprising a connection information recording device at each node on the bus, for holding connection information including the

predetermined process to be selected and the status of the connection restoration such that the connection information can be updated.

4. The data transmission/reception system according to claim 1, wherein

said plurality of processes include a process of allocating each channel connecting each node, and a process of allocating a bandwidth necessary to a data transmission/reception.

5. The data transmission/reception system according to claim 4, wherein

the bus is a serial bus compliant with IEEE 1394 Standard, and

said plurality of connection restorations include a connection restoration of a Broadcast-out connection, a connection restoration of a Broadcast-in connection, and a connection restoration of a Point-to-point connection.

6. The data transmission/reception system according to claim 5, wherein

said plurality of processes include a process of updating oPCR of an output plug at a transmission side, and a process of updating iPCR of an input plug at a reception side.

7. The data transmission/reception system according to claim 6, wherein said plurality of processes include a process of updating oPCR of an output plug at a transmission side, and a process of updating iPCR of an input plug at a reception side.

8.   A connection restoration method for restoring each connection at each node by the passage of a predetermined time when each established connection is reset based on a bus resetting in a data transmission/reception system where a plurality of information transmitters/receivers connected to nodes on the bus, which transmit/receive data through a connection established between the nodes, the method comprising the processes of:

controlling an execution order of a plurality of connection restorations corresponding to the types of connections;

dividing each connection restoration into a plurality of processes; and

at the time of executing a connection restoration corresponding to the execution order, selectively executing a predetermined process based on a status of the connection restoration.

9.   The connection restoration method according to claim 8, wherein

the data transmission/reception system comprises a registration device in which the execution order of the connection restorations is registered, and   the method further comprises the processes of: controlling the execution order by referring the registration device; and updating the execution order in registration device in accordance with the status of the connection recover.

10.   The connection restoration method according to claim 8, wherein

said plurality of processes include a process of allocating each channel connecting each node, and a process of allocating a bandwidth necessary to a data transmission/reception.

5   11.   The connection restoration method according to claim 8, wherein

the bus is a serial bus compliant with IEEE 1394 Standard, and

said plurality of connection restorations include a connection restoration of a Broadcast-out connection, a connection restoration of a

10   Broadcast-in connection, and a connection restoration of a Point-to-point connection.

12.   The connection restoration method according to claim 8, wherein

15   said plurality of processes include a process of updating oPCR of an output plug at a transmission side, and a process of updating iPCR of an input plug at a reception side.

13.   An information transmission/reception apparatus capable

20   of being connected to nodes on a bus, for transmitting/receiving data through each connection established between nodes, comprising

a connection restoration control device for restoring the connection by the passage of a predetermined time when the connection is reset based on a bus resetting,

25   wherein the connection restoration control device controls an execution order of a plurality of connection restorations corresponding to the types of connections, and divides each connection restoration into a

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plurality of processes, and at the time of executing a connection restoration corresponding to the execution order, selectively executes a predetermined process based on a status of the connection restoration.

14.   The information transmission/reception apparatus according to claim 13, further comprising a registration device in which the execution order of the connection restorations is registered, wherein

the connection restoration control device controls the execution order by referring the registration device, and updating the execution order in registration device in accordance with the status of the connection recover.

15.   The information transmission/reception apparatus according to claim 13, further comprising a connection information recording device at each node on the bus, for holding connection information including the predetermined process to be selected and the status of the connection restoration such that the connection information can be updated.

16.   The information transmission/reception apparatus according to claim 13, wherein

said plurality of processes include a process of allocating each channel connecting each node, and a process of allocating a bandwidth necessary to a data transmission/reception.

17.   The information transmission/reception apparatus according to claim 16, wherein

the bus is a serial bus compliant with IEEE 1394 Standard, and said plurality of connection restorations include a connection restoration of a Broadcast-out connection, a connection restoration of a Broadcast-in connection, and a connection restoration of a Point-to-point connection.

18.   The information transmission/reception apparatus according to claim 17, wherein

said plurality of processes include a process of updating oPCR of an output plug at a transmission side, and a process of updating iPCR of an input plug at a reception side.

19.   The information transmission/reception apparatus according to claim 15, wherein

the connection information recording device holds each ID intrinsic to each information transmission/reception apparatus connected to the nodea on the bus, and

the connection restoration control device controls an execution order of a processing of obtaining each ID.